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DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW

1st Review - Date: 12-13-96	Determination [Circle Number(s)]
Authority: ☐ADC ☒ADD	1. Classification Retained
Name: M Thelen	2. Classification Changed To:
2nd Review - Date 12-17-96	3. Contains No DOE Classified Information
Authority: ADD	4. Coordinate With:
Name: Joyce Fleming	5. Classification Canceled
	6. Classified Information Bracketed
	7. Other (Specify):

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EIDMM-b

25 October 1944 JLF/es

RHTG : 73,029
BOX # 603 168

Subject: Radioactivity of Mud and Water in White Oak Creek.

To: The District Engineer, Manhattan District

1. Reports of measurements of the radioactivity of mud and water from White Oak Creek and Lake, made by the Clinton Laboratories have been reviewed. (Ref. Secret reports CH-2023 and CN-2039.) Further, the preliminary results of analysis of the active material present in five fish and one crayfish caught in White Oak Creek and Lake have been examined (Reference: Confidential letter dated 16 June 1944 from H. J. Curtis to E. L. Doan.)

2. Calculations based on the date presented in the above-mentioned references indicate that the following conclusions are justified:

a. A person working in the immediate vicinity of the settling basins, White Oak Creek or Lake would be very unlikely to receive more than a tolerance dose of radiation even if he worked there eight hours per day for an indefinite period. (The tolerance dose by definition is that amount which can be tolerated each day for an indefinite period without harmful effects occurring.) At the surface of the water direct contact might cause the person to receive as much as 0.1 r beta radiation per hour, or one and one half times tolerance.

b. There is no possibility of harmful amounts of radioactive materials being absorbed through the skin by persons working in that area.

c. The possibility of persons ingesting sufficient quantities of mud to incur harmful effects is exceedingly remote.

d. The possibility of an individual drinking enough water from the creek to suffer harmful effects is likewise extremely remote.

e. The activity of the mud and water is insufficient to produce harmful effects on fish while the material is outside or on the body of the fish.

f. The amount of material which has been demonstrated in the bodies of the five fish and the one crayfish reported, is insufficient to adversely affect the fish.

g. It would be exceedingly difficult for a person to eat enough fish to develop toxic effects from the radioactive material in the fish, since the bulk of the material is likely to be found in the skin and bones of the fish.

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3. In view of the conclusions stated above, the hazard from the radioactivity of the mud and water of White Oak Creek and Lake appears to be minimal. However, careful surveys are being made at regular intervals so that the necessary safeguards and measures can be instituted. Regular monitoring of the radioactivity will be the most important element in this survey.

STAFFORD L. WARREN
Colonel, M. C.
Chief, Medical Section

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